

## ZB4BD3

black selector switch head Ø22 3-position stay put



### Main

|                               |                          |
|-------------------------------|--------------------------|
| Range of product              | Harmony XB4              |
| Product or component type     | Head for selector switch |
| Device short name             | ZB4                      |
| Bezel material                | Chromium plated metal    |
| Mounting diameter             | 22 mm                    |
| Sale per indivisible quantity | 1                        |
| Shape of signaling unit head  | Round                    |
| Type of operator              | Stay put                 |
| Operator profile              | Black standard handle    |
| Operator position information | 3 positions +/- 45°      |

### Complementary

|                                    |  |
|------------------------------------|--|
| CAD overall width                  | 29 mm  |
| CAD overall height                 | 29 mm  |
| CAD overall depth                  | 44 mm  |
| Product weight                     | 0.04 kg  |
| Resistance to high pressure washer | 7000000 Pa at 55 °C, distance: 0.1 m   |
| Mechanical durability              | 1000000 cycles   |
| Electrical composition code        | C11 for <= 3 contacts using single blocks in front mounting<br>C3 for <= 6 contacts using single blocks in front mounting<br>C4 for <= 6 contacts using single and double blocks in front mounting<br>C7 for <= 4 contacts using single blocks in front mounting<br>C8 for <= 4 contacts using single and double blocks in front mounting<br>C5 for <= 5 contacts using single blocks in front mounting<br>C6 for <= 5 contacts using single and double blocks in front mounting |

### Environment

|                                       |  |
|---------------------------------------|--|
| protective treatment                  | TH   |
| ambient air temperature for storage   | -40...70 °C  |
| ambient air temperature for operation | -40...70 °C  |
| overvoltage category                  | Class I conforming to IEC 60536  |
| IP degree of protection               | IP67 conforming to IEC 60529<br>IP69K<br>IP69  |
| NEMA degree of protection             | NEMA 13<br>NEMA 4X   |
| IK degree of protection               | IK06 conforming to IEC 50102   |
| standards                             | EN/IEC 60947-1<br>EN/IEC 60947-5-1<br>EN/IEC 60947-5-4<br>EN/IEC 60947-5-5<br>JIS C 4520<br>UL 508<br>CSA C22.2 No 14  |
| product certifications                | BV<br>CSA<br>DNV<br>GL<br>LROS (Lloyds register of shipping)<br>RINA<br>UL listed  |
| vibration resistance                  | 5 gn (f = 2...500 Hz) conforming to IEC 60068-2-6  |
| shock resistance                      | 30 gn (duration = 18 ms) for half sine wave acceleration conforming to IEC 60068-2-27<br>50 gn (duration = 11 ms) for half sine wave acceleration conforming to IEC 60068-2- |

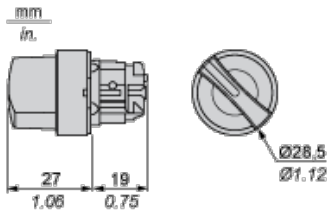
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## Contractual warranty

Warranty period

18 months

## Dimensions

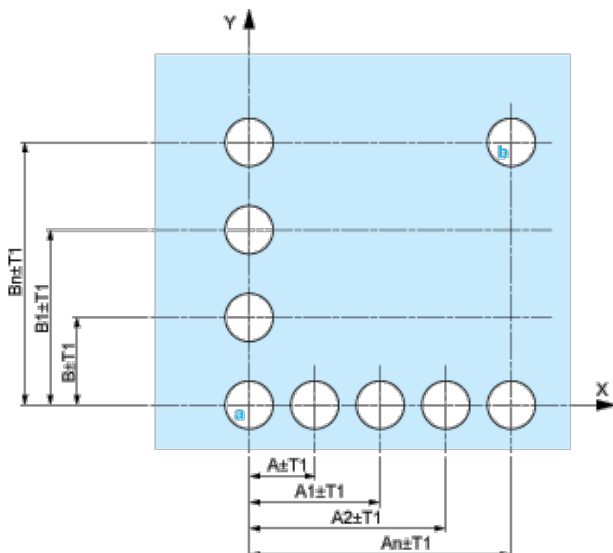


## Panel Cut-out for Pushbuttons, Switches and Pilot Lights (Finished Holes, Ready for Installation)

| Connection by Screw Clamp Terminals or Plug-in Connectors or on Printed Circuit Board   | Connection by Faston Connectors |
|---|---------------------------------|
|   |                                 |
| <p>(1) Diameter on finished panel or support</p> <p>(2) 40 mm min. / 1.57 in. min.</p> <p>(3) 30 mm min. / 1.18 in. min.</p> <p>(4) <math>\varnothing 22.5</math> mm / 0.89 in. recommended (<math>\varnothing 22.3</math> mm <math>^{+0.4}_0</math> / 0.88 in. <math>^{+0.016}_0</math>)</p> <p>(5) 45 mm min. / 1.78 in. min.</p> <p>(6) 32 mm min. / 1.26 in. min.</p> |                                 |

## Pushbuttons, Switches and Pilot Lights for Printed Circuit Board Connection

### Panel Cut-outs (Viewed from Installer's Side)

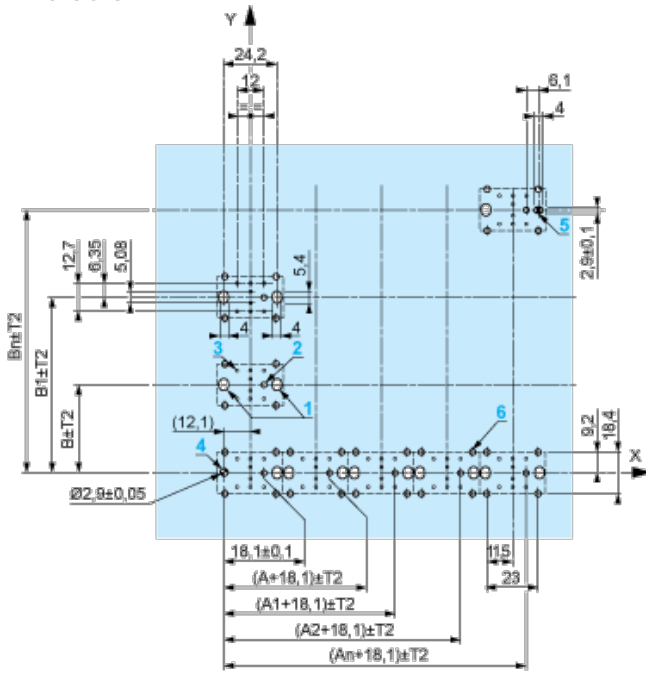


A: 30 mm min. / 1.18 in. min.

B: 40 mm min. / 1.57 in. min.

**Printed Circuit Board Cut-outs (Viewed from Electrical Block Side)**

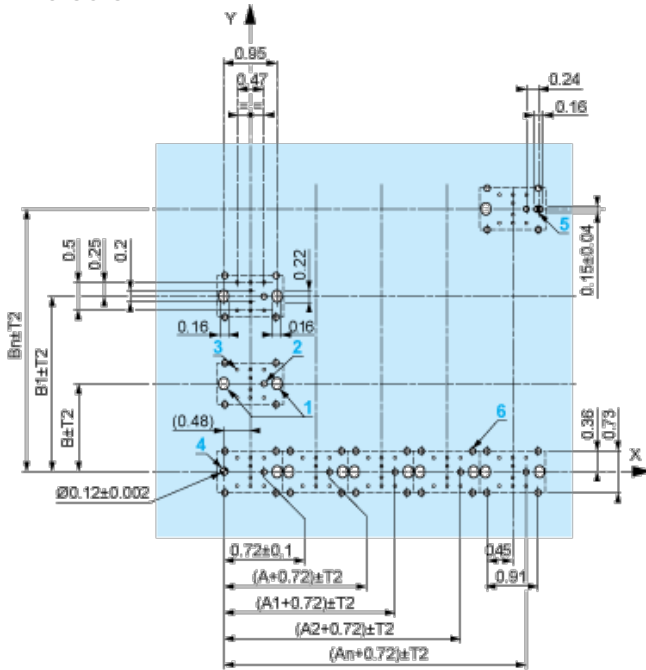
Dimensions in mm



A: 30 mm min.

B: 40 mm min.

Dimensions in in.



A: 1.18 in. min.

B: 1.57 in. min.

**General Tolerances of the Panel and Printed Circuit Board**

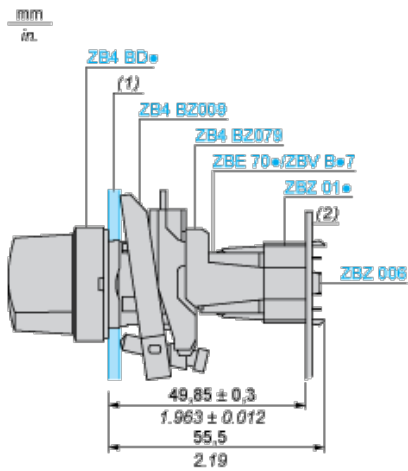
The cumulative tolerance must not exceed 0.3 mm / 0.012 in:  $T1 + T2 = 0.3$  mm max.

**Installation Precautions**

- | Minimum thickness of circuit board: 1.6 mm / 0.06 in.
- | Cut-out diameter: 22.4 mm ± 0.1 / 0.88 in. ± 0.004
- | Orientation of body/fixing collar ZB4 BZ009: ± 2°30' (excluding cut-outs marked a and b).
- | Tightening torque of screws ZBZ 006: 0.6 N.m (5.3 lbf.in) max.
- | Allow for one ZB4 BZ079 fixing collar/pillar and its fixing screws:
  - | every 90 mm / 3.54 in. horizontally (X), and 120 mm / 4.72 in. vertically (Y).

- i with each selector switch head (ZB4 BD•, ZB4 BJ•, ZB4 BG•).

The fixing centers marked **a** and **b** are diagonally opposed and must align with those marked 4 and 5.



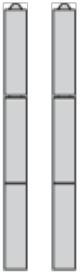
- (1) Panel
- (2) Printed circuit board

#### Mounting of Adapter (Socket) ZBZ 01•

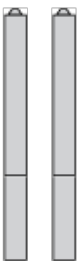
- i 1 2 elongated holes for ZBZ 006 screw access
- i 2 1 hole  $\varnothing 2.4 \text{ mm} \pm 0.05 / 0.09 \text{ in.} \pm 0.002$  for centring adapter ZBZ 01•
- i 3 8 ×  $\varnothing 1.2 \text{ mm} / 0.05 \text{ in.}$  holes
- i 4 1 hole  $\varnothing 2.9 \text{ mm} \pm 0.05 / 0.11 \text{ in.} \pm 0.002$ , for aligning the printed circuit board (with cut-out marked **a**)
- i 5 1 elongated hole for aligning the printed circuit board (with cut-out marked **b**)
- i 6 4 holes  $\varnothing 2.4 \text{ mm} / 0.09 \text{ in.}$  for clipping in adapter ZBZ 01•

Dimensions An + 18.1 relate to the  $\varnothing 2.4 \text{ mm} \pm 0.05 / 0.09 \text{ in.} \pm 0.002$  holes for centring adapter ZBZ 01•.

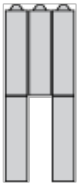
#### Electrical Composition Corresponding to Code C3



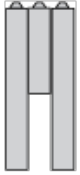
#### Electrical Composition Corresponding to Code C4



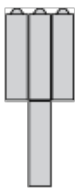
#### Electrical Composition Corresponding to Code C5



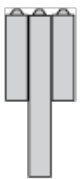
### Electrical Composition Corresponding to Code C6



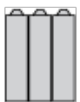
### Electrical Composition Corresponding to Code C7



### Electrical Composition Corresponding to Code C8



### Electrical Composition Corresponding to Codes C9, C11, SF1 and SR1



### Legend

Single contact



Double contact



Light block



Possible location



## Sequence of Contacts Fitted to 3-position Selector Switch Body

### Position 315°



|                 |          |        |        |        |        |
|-----------------|----------|--------|--------|--------|--------|
| <b>Push</b>     | Position | Top    |        |        |        |
|                 |          | Bottom |        |        |        |
|                 | Location |        | Left   | Centre | Right  |
|                 | State    |        | 1      | 1      | 0      |
| <b>Contacts</b> | N/O      |        | closed | closed | open   |
|                 | N/C      |        | open   | open   | closed |

### Position 0°



|                 |          |        |        |        |        |
|-----------------|----------|--------|--------|--------|--------|
| <b>Push</b>     | Position | Top    |        |        |        |
|                 |          | Bottom |        |        |        |
|                 | Location |        | Left   | Centre | Right  |
|                 | State    |        | 0      | 0      | 0      |
| <b>Contacts</b> | N/O      |        | open   | open   | open   |
|                 | N/C      |        | closed | closed | closed |

### Position 45°



|                 |          |        |        |        |        |
|-----------------|----------|--------|--------|--------|--------|
| <b>Push</b>     | Position | Top    |        |        |        |
|                 |          | Bottom |        |        |        |
|                 | Location |        | Left   | Centre | Right  |
|                 | State    |        | 0      | 1      | 1      |
| <b>Contacts</b> | N/O      |        | open   | closed | closed |
|                 | N/C      |        | closed | open   | open   |